Response to Final Office Action
Docket No. 013.0226.US.UTL

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1   1.   (currently amended): A system for generating a two-dimensional
2 spatial arrangement of a multi-dimensional cluster rendering, comprising:
3   a concept space to visualize document content that is stored as clusters
4 based on extracted terms;
5   a set of the stored clusters from [[a]] concept space comprising a
6 multiplicity of clusters visualizing document content in a two-dimensional visual
7 display space based on extracted terms, with each selected cluster in the clusters
8 set sharing a common theme comprising shared terms; one or more of the
9 extracted terms that are shared; and
10   a placement module determining to place the clusters set into a two-
11 dimensional visual display area, comprising:
12   an anchor point selector submodule to choose one of the selected
13 clusters and to determine an anchor point on at least one such cluster within the
14 clusters set, the anchor point the chosen cluster that is located on at least one an
15 open edge that is formed as a point along an edge of the at least one such of the
16 chosen cluster and on where another cluster can only be adjacently placed and a
17 vector defined from the center of the at least one such cluster; chosen cluster
18 intersects; and
19   arranging an arrangement submodule to arrange one or more of the
20 remaining selected clusters in the clusters set into an arrangement of adjacent
21 clusters originating from the anchor point at one such open edge.

1   2.   (currently amended): A system according to Claim 1, further
2 comprising:

3   a sort module ~~sorting the~~ to sort the selected clusters in each clusters set by

4   cluster size.

1   Claim 3 (canceled).

1   Claim 4 (canceled).

1   5.   (currently amended): A system according to Claim **1**, further

2   comprising:

3   an angle submodule ~~defining~~ to define the vector for [[each]] the anchor

4   point at a normalized angle.

1   Claim 6 (canceled).

1   Claim 7 (canceled).

1   8.   (currently amended): A system according to Claim 1, further

2   comprising:

3   a rendering module ~~rendering each~~ to render each selected cluster in the

4   two-dimensional visual display area as a circle having an independent radius.

1   9.   (currently amended): A system according to Claim 8, wherein each

2   circle has a volume dependent on a number of concepts contained in the selected

3   cluster.

1   10.   (currently amended): A system according to Claim 1, further

2   comprising:

3   a rendering module ~~rendering~~ to render each selected cluster as a convex

4   volume, wherein each convex shape represents visualized data for a semantic

5   concept space.

1   11.   (currently amended): A system according to Claim 1, wherein the

2   placement module determines a further anchor point located on ~~at least one~~

3   ~~further open edge that is formed as a point along an~~ another open edge of ~~at least~~

4   ~~one further~~ the chosen cluster ~~within the clusters set and on a~~ where another

5   cluster can only be adjacently placed and a further vector defined from the center

6   of the ~~at least one further cluster,~~ chosen cluster intersects, further comprising:

7   a grafting submodule ~~grafting~~ arranging one or more of the remaining

8   selected clusters into an additional arrangement of adjacent clusters originating

9   from the further anchor point ~~at the one further open edge.~~

1   Claim 12 (canceled).

1   Claim 13 (canceled).

1   14.   (currently amended): A method for generating a two-dimensional

2   spatial arrangement of a multi-dimensional cluster rendering, comprising:

3   visualizing document content as clusters based on extracted terms by

4   storing the clusters into a concept space;

5   selecting a set of the clusters from [[a]] the concept space ~~comprising a~~

6   ~~multiplicity of clusters visualizing document content in a two-dimensional visual~~

7   ~~display space based on extracted terms,~~ with each selected cluster ~~in the clusters~~

8   ~~set~~ sharing a common theme comprising ~~shared terms;~~ one or more of the

9   extracted terms that are shared; and

10   placing the clusters set into a two-dimensional visual display area,

11   comprising:

12   choosing one of the selected clusters and determining an anchor

13   point on ~~at least one such cluster within the clusters set, the anchor point~~ the

14   chosen cluster that is located on ~~at least one~~ an open edge ~~that is formed as a point~~

15   ~~along an edge of the at least one such~~ of the chosen cluster ~~and on~~ where another

16   cluster can be adjacently placed and a vector defined from the center of the ~~at~~

17   ~~least one such cluster;~~ chosen cluster intersects; and

18   arranging one or more of the remaining selected clusters ~~in the~~

19   ~~clusters set~~ into an arrangement of adjacent clusters originating from the anchor

20   point ~~at one such open edge.~~

1   15.   (currently amended): A method according to Claim 14, further
2 comprising:

3   sorting the <u>selected</u> clusters in each clusters set by cluster size.

1   Claim 16 (canceled).

1   Claim 17 (canceled).

1   18.   (currently amended): A method according to Claim 14, further
2 comprising:

3   defining the vector for [[each]] <u>the</u> anchor point at a normalized angle.

1   Claim 19 (canceled).

1   Claim 20 (canceled).

1   21.   (currently amended): A method according to Claim 14, further
2 comprising:

3   rendering each <u>selected</u> cluster <u>in the two-dimensional visual display area</u>
4 as a circle having an independent radius.

1   22.   (currently amended): A method according to Claim 21, further
2 comprising:

3   calculating a volume for each circle dependent on a number of concepts
4 contained in the <u>selected</u> cluster.

1   23.   (currently amended): A method according to Claim 14, further
2 comprising:

3   rendering each cluster as a convex volume, <u>wherein each convex shape</u>
4 <u>represents visualized data for a semantic concept space.</u>

1   24.   (currently amended): A method according to Claim 14, further
2 comprising:

3   determining a further anchor point located on ~~at least one further open~~

4   ~~edge that is formed as a point along an~~ another open edge of ~~at least one further~~

5   the chosen cluster ~~within the clusters set and on a~~ where another cluster can be

6   adjacently placed and a further vector defined from the center of the ~~at least one~~

7   ~~further cluster;~~ chosen cluster intersects; and

8   ~~grafting~~ arranging one or more of the remaining selected clusters into an

9   additional arrangement of adjacent clusters originating from the further anchor

10   point ~~at the one further open edge~~.

1   Claim 25 (canceled).

1   Claim 26 (canceled).

1   27.   (currently amended): A computer-readable storage medium storing

2   code for causing a computer to perform the method according to Claims 14, 15,

3   [[17,]] 18, 21, 23, and 24. ~~24, 25 and 26~~.

1   28.   (currently amended): A system for arranging concept clusters in

2   thematic relationship in a two-dimensional visual display [[space,]] area,

3   comprising:

4   a stored theme to logically represent one or more concepts based on terms

5   extracted from a document set;

6   a plurality of stored clusters selected ~~from a two-dimensional visual~~

7   ~~display space representing~~ to represent a stored multi-dimensional visualization

8   ~~space sharing a~~ space, wherein each selected cluster comprises at least one of the

9   concepts in one such theme that is in common ~~theme comprising at least one~~

10   ~~concept, each theme logically representing one or more concepts based on terms~~

11   ~~extracted from a document set;~~ with the other selected clusters; and

12   a placement ~~module combining~~ module to place the clusters in a two-

13   dimensional visual display area, comprising:

14   a listing submodule to combine in order each ungrouped cluster not

15   yet grouped from the selected clusters for the shared common theme into a list of

16   placeable clusters; and grafting

17   a grouping submodule to add each placeable clusters list into a

18   grouping [[of]] with one or more other placeable clusters lists at lists, wherein the

19   clusters in the other placeable clusters lists each comprise at least one concept in

20   the shared common theme;

21   an anchor submodule to choose a selected cluster from one of the

22   placeable clusters lists in the grouping and to determine an anchor point on the

23   chosen cluster that is located on an open edge formed as a point along an edge of

24   one such of the chosen cluster in the grouping and on where another cluster can

25   only be adjacently placed and a vector defined from the center of the one such

26   cluster, the clusters in each other clusters list sharing at least one concept

27   represented in the shared common theme. chosen cluster intersects; and

28   a grafting submodule to place the selected cluster and to graft the

29   clusters in the remaining placeable clusters lists in the grouping at the anchor

30   point in the two-dimensional visual display area.

1   29.   (currently amended): A system according to Claim 28, further

2   comprising:

3   a sort module sorting the clusters in each placeable clusters list in

4   sequence.

1   30.   (original): A system according to Claim 29, wherein the sequence

2   comprises a number of documents containing the one or more logically

3   represented concepts.

1   31.   (original): A system according to Claim 29, wherein the sequence

2   comprises one of ascending and descending order.

1   32.   (original): A system according to Claim 28, wherein each cluster is

2   formed as one of a circular and non-circular convex volume.

1   33.   (original): A system according to Claim 28, wherein the vector for
2   each cluster is defined at normalized angles.

1   Claim 34 (canceled).

1   35.   (currently amended): A system according to Claim 28, wherein the
2   shared common theme contains concepts within a pre-specified range of variance.

1   36.   (currently amended): A method for arranging concept clusters in
2. thematic relationship in a two-dimensional visual display [[space,]] area,
3   comprising:
4   logically representing one or more concepts based on terms extracted from
5   a document set as a theme;
6   selecting clusters from a two-dimensional visual display space
7   representing a stored multi-dimensional visualization space sharing a space,
8   wherein each selected cluster comprises at least one of the concepts in one such
9   theme that is in common theme comprising at least one concept, each theme
10 logically representing one or more concepts based on terms extracted from a
11 document set; with the other selected clusters; and
12   placing the clusters in a two-dimensional visual display area, comprising:
13   combining in order each ungrouped cluster not yet grouped from
14 the selected clusters for the shared common theme into a list of placeable clusters;
15 [[and]]
16   grafting adding each placeable clusters list into a grouping [[of]]
17 with one or more other placeable clusters lists at lists, wherein the clusters in the
18 other placeable clusters lists each comprise at least one concept in the shared
19 common theme;
20   choosing a selected cluster from one of the placeable clusters lists
21 in the grouping and determining an anchor point on the chosen cluster that is
22 located on an open edge formed as a point along an edge of one such of the
23 chosen cluster in the grouping and on where another cluster can only be

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24   adjacently placed and a vector defined from the center of the ~~one such cluster, the~~

25   ~~clusters in each other clusters list sharing at least one concept represented in the~~

26   ~~shared common theme.~~ chosen cluster intersects; and

27   placing the selected cluster and grafting the clusters in the

28   remaining placeable clusters lists in the grouping at the anchor point in the two-

29   dimensional visual display area.

1   37.   (currently amended): A method according to Claim 36, further

2   comprising:

3   sorting the clusters in each placeable clusters list in sequence.

1   38.   (original): A method according to Claim 37, wherein the sequence

2   comprises a number of documents containing the one or more logically

3   represented concepts.

1   39.   (original): A method according to Claim 37, wherein the sequence

2   comprises one of ascending and descending order.

1   40.   (original): A method according to Claim 36, further comprising:

2   forming each cluster as one of a circular and non-circular convex volume.

1   41.   (original): A method according to Claim 36, further comprising:

2   defining the vector for each cluster at normalized angles.

1   Claim 42 (canceled).

1   43.   (currently amended): A method according to Claim 36, wherein the

2   shared common theme contains concepts within a pre-specified range of variance.

1   44.   (currently amended): A computer-readable storage medium storing

2   code for causing a computer to perform the method according to Claims 36, 37,

3   38, 39, 40, 41, [[42,]] and 43.

1   45.   (new): A system according to Claim 1, wherein the common theme

2 is defined by selecting the shared extracted terms to have common semantic

3 meanings.

1   46.   (new): A system according to Claim 1, wherein at least one

2 additional set of the clusters are selected from the concept space with each

3 selected additional cluster sharing a further common theme comprising one or

4 more of the extracted terms that are shared, wherein the further common theme is

5 different than the common theme; and the at least one additional clusters set is

6 placed into the two-dimensional visual display area.

1   47.   (new): A system according to Claim 1, wherein at least one

2 additional cluster is selected from the concept space comprising the extracted

3 terms that are unique from each other cluster in the concept space; and the at least

4 one additional cluster is placed into the two-dimensional visual display area.

1   48.   (new): A system according to Claim 1, further comprising:

2   an output device to present the two-dimensional visual display area.

1   49.   (new): A method according to Claim 14, further comprising:

2   defining the common theme by selecting the shared extracted terms to

3 have common semantic meanings.

1   50.   (new): A method according to Claim 14, further comprising:

2   selecting at least one additional set of the clusters from the concept space

3 with each selected additional cluster sharing a further common theme comprising

4 one or more of the extracted terms that are shared, wherein the further common

5 theme is different than the common theme; and

6   placing the at least one additional clusters set into the two-dimensional

7 visual display area.

1   51.   (new): A method according to Claim 14, further comprising:

2   selecting at least one additional cluster from the concept space comprising

3 the extracted terms that are unique from each other cluster in the concept space;

4 and

5   placing the at least one additional cluster into the two-dimensional visual

6 display area.

1   52.   (new): A method according to Claim 14, further comprising:

2   presenting the two-dimensional visual display area on an output device.

1   53.   (new): A system according to Claim 28, wherein at least one

2 additional set of the clusters is selected, wherein each selected additional cluster

3 comprises one or more of the extracted terms that is in common with the other

4 selected clusters in a further common theme that is different than the shared

5 common theme; and the at least one additional clusters set is placed into the two-

6 dimensional visual display area.

1   54.   (new): A system according to Claim 28, wherein at least one

2 additional cluster is selected that comprises the extracted terms that are unique

3 from each other cluster; and the at least one additional cluster is placed into the

4 two-dimensional visual display area.

1   55.   (new): A method according to Claim 36, further comprising:

2   selecting at least one additional set of the clusters, wherein each selected

3 additional cluster comprises one or more of the extracted terms that is in common

4 with the other selected clusters in a further common theme that is different than

5 the shared common theme; and

6   placing the at least one additional clusters set into the two-dimensional

7 visual display area.

1   56.   (new): A method according to Claim 36, further comprising:

2   selecting at least one additional cluster comprising the extracted terms that

3 are unique from each other cluster; and

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4   placing the at least one additional cluster into the two-dimensional visual

5   display area.